

SUPPLEMENTARY MATERIAL

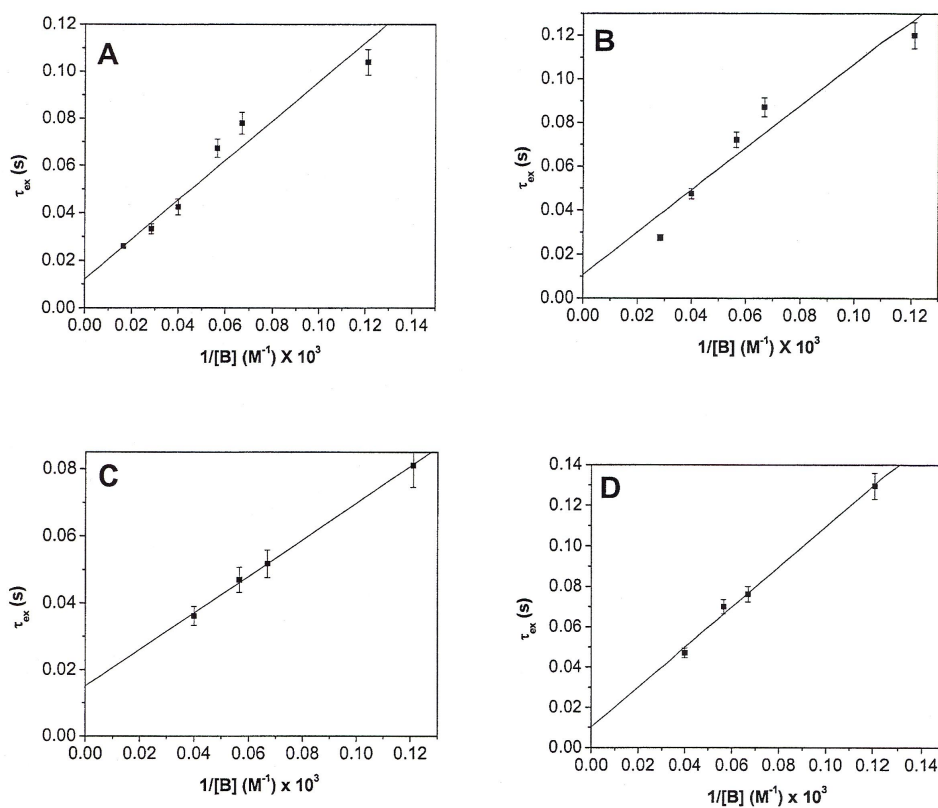


Figure S1: Exchange of the imino protons of the duplex $d(\text{GACA}\underline{\text{A}}\text{TGTC})_2$ containing the intervening AA mismatch versus the inverse of the concentration of ammonia catalyst. The exchange times (τ_{ex}) of (A) G7NH, (B) G9NH, (C) T6NH and (D) T8NH imino protons are individually displayed as a function of inverse ammonia concentration ($1/[B]$). The data points used in the drawing of these lines are normalized based on at least three trials. The straight lines are obtained by fitting to Equation 2, with the exchange times weighted according to their errors. The corresponding base-pair lifetimes (τ_{op}) thereby obtained from extrapolation are displayed in Table 3.

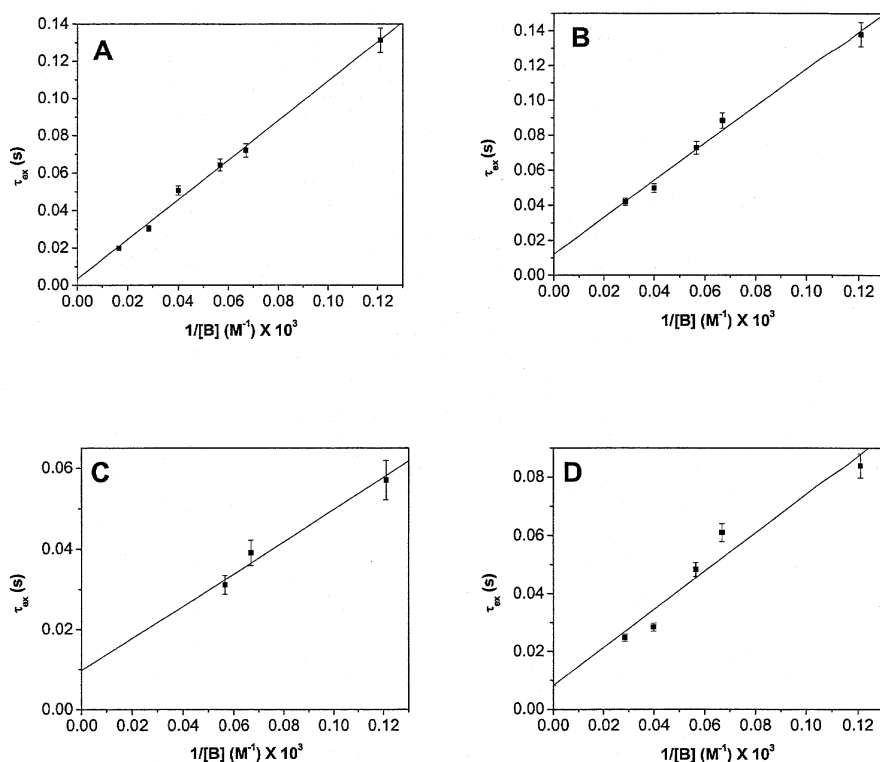


Figure S2: Exchange of the imino protons of the duplex d(GACACTGTC)₂ containing the intervening CC mismatch versus the inverse of the concentration of ammonia catalyst. The exchange times (τ_{ex}) of (A) G7NH, (B) G9NH, (C) T6NH and (D) T8NH imino protons are individually displayed as a function of inverse ammonia concentration ($1/[B]$). The data points used in the drawing of these lines are normalized based on at least three trials. The straight lines are obtained by fitting to Equation 2, with the exchange times weighted according to their errors. The corresponding base-pair lifetimes (τ_{op}) thereby obtained from extrapolation are displayed in Table 3.

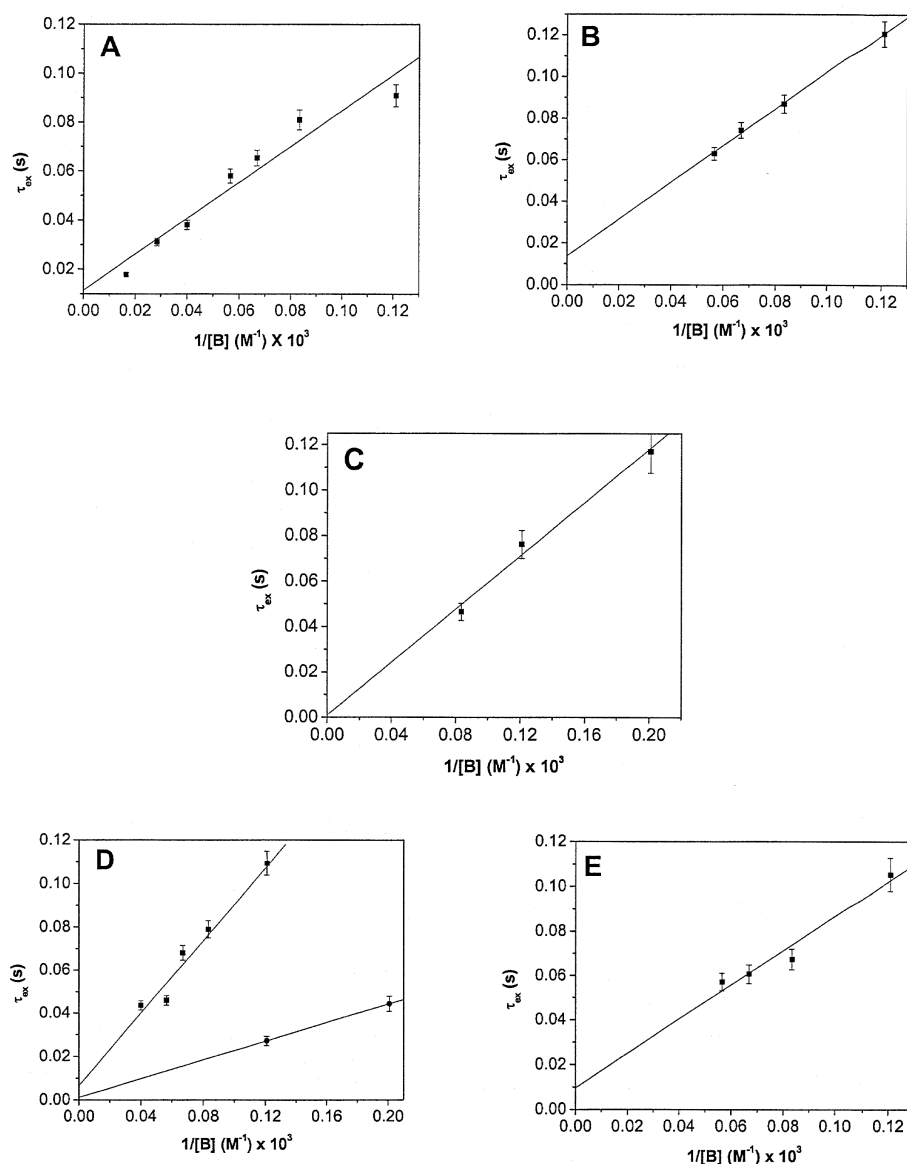


Figure S3: Exchange of the imino protons of the duplex d(GACATTGTC)₂ containing the intervening TT mismatch versus the inverse of the concentration of ammonia catalyst. The exchange times (τ_{ex}) of (A) G7NH, (B) G9NH, (C) T5/T5'NH, (D) T6NH and (E) T8NH imino protons are individually displayed as a function of inverse ammonia concentration ($1/[B]$). The data points used in the drawing of these lines are normalized based on at least three trials. The straight lines are obtained by fitting to Equation 2, with the exchange times weighted according to their errors. The corresponding base-pair lifetimes (τ_{op}) thereby obtained from extrapolation are displayed in Table 3. In case of T6NH proton, two different lifetimes are obtained (Results & Discussion).

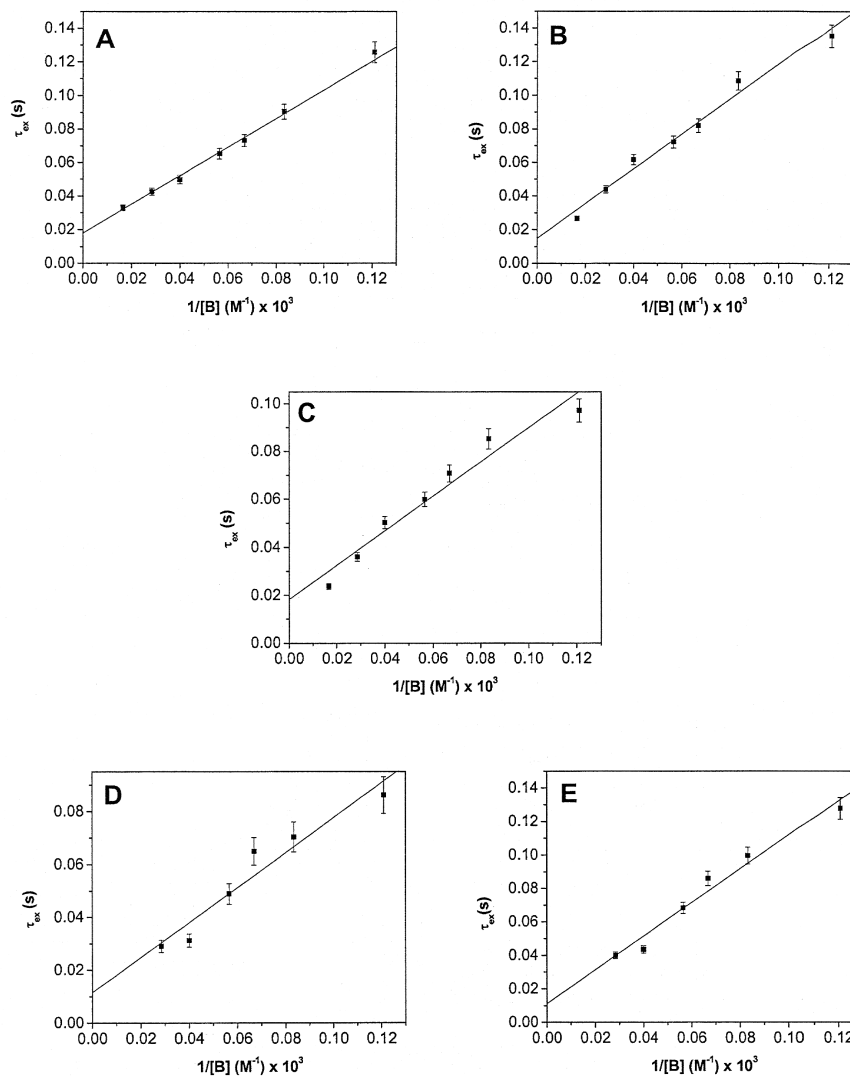


Figure S4: Exchange of the imino protons of the fully matched duplex d(GACAGTGTC)₂ versus the inverse of the concentration of ammonia catalyst. The exchange times (τ_{ex}) of (A) G7NH, (B) G9NH, (C) G5NH, (D) T6NH and (E) T8NH imino protons are individually displayed as a function of inverse ammonia concentration ($1/[B]$). The data points used in the drawing of these lines are normalized based on at least three trials. The straight lines are obtained by fitting to Equation 2, with the exchange times weighted according to their errors. The corresponding base-pair lifetimes (τ_{op}) thereby obtained from extrapolation are displayed in Table 3.

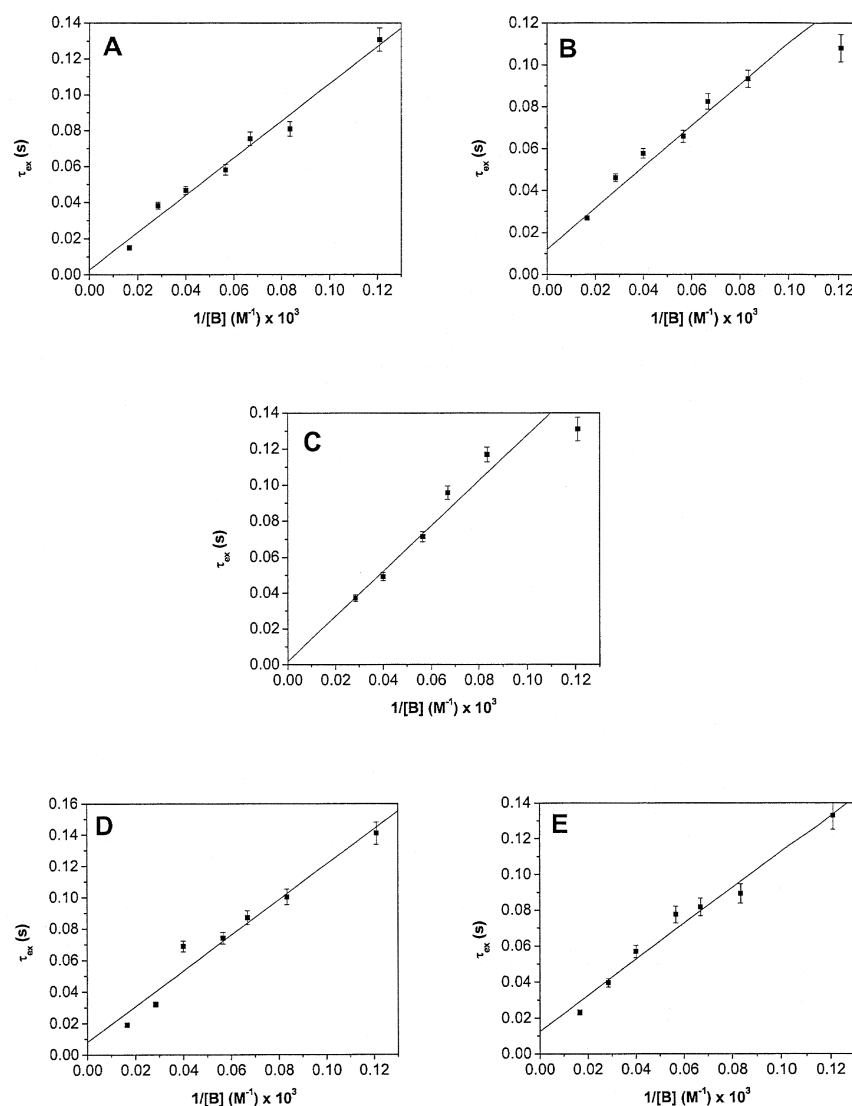


Figure S5: Exchange of the imino protons of the fully matched duplex $d(GACAATGTC)_2$ versus the inverse of the concentration of ammonia catalyst. The exchange times (τ_{ex}) of (A) G7NH, (B) G9NH, (C) T5NH, (D) T6NH and (E) T8NH imino protons are individually displayed as a function of inverse ammonia concentration ($1/[B]$). The data points used in the drawing of these lines are normalized based on at least three trials. The straight lines are obtained by fitting to Equation 2, with the exchange times weighted according to their errors. The corresponding base-pair lifetimes (τ_{op}) thereby obtained from extrapolation are displayed in Table 3.